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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Khan *et al.*

Appl. No. 10/020,207

Filed: December 18, 2001

For: **Ball Grid Array Package
Substrates with a Modified
Central Opening and Method for
Making the Same**

Confirmation No. 7969

Art Unit: 2822

Examiner: Soward, Ida M.

Atty. Docket: 1875.1640000

Third Supplemental Information Disclosure Statement

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application

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does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- ☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.
- ☒ 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed within three months of the date of filing of a national application other than a continued prosecution application (CPA), OR within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, OR before the mailing date of a first Office Action on the merits OR before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No statement or fee is required.
- ☐ 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.
 - ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

- ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- ☐ c. Attached is our PTO-2038 Credit Card Payment Form **[OR]** Check No. _____ in the amount of \$ _____ in payment of the fee under 37 C.F.R. § 1.17(p).
- ☐ 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Attached is our PTO-2038 Credit Card Payment Form **[OR]** Check No. _____ in the amount of \$ _____ in payment of the fee under 37 C.F.R. § 1.17(p); in addition:
 - ☐ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
 - ☐ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

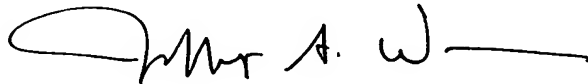
- ☐ 5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- ☐ 6. A concise explanation of the relevance of the non-English language document(s) appears below:
- ☐ 7. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. _____, filed _____, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



Jeffrey S. Weaver
Attorney for Applicants
Registration No. 45,608

Date: 11-14-03
1100 New York Avenue, N.W.
Washington, D.C. 20005-3934
(202) 371-2600



FORM PTO-1449

INFORMATION DISCLOSURE STATEMENTATTY. DOCKET NO.
1875.1640000APPLICATION NO.
10/020,207APPLICANT
Khan et al.FILING DATE
December 18, 2001GROUP
2822**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA1	10/284,312	3/27/2003	Zhao et al.			10/31/2002
	AB1	10/284,340		Zhao et al.			10/31/2002
	AC1	10/201,891	12/12/2002	Zhao et al.			7/25/2002
	AD1	10/200,336	12/12/2002	Khan et al.			7/23/2002
	AE1	10/197,438	12/12/2002	Zhao et al.			7/18/2002
	AF1	10/201,309	12/19/2002	Khan et al.			7/24/2002
	AG1	10/201,893	12/12/2002	Zhao et al.			7/25/2002
	AH1	10/200,255	12/19/2002	Zhao et al.			7/23/2002
	AI1	10/101,751		Zhao et al.			3/21/2002
	AJ1	10/253,600		Zhong et al.			9/25/2002
	AK1	10/284,371	8/7/2003	Khan et al.			10/31/2002

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL1						Yes No
	AM1						Yes No
	AN1						Yes No
	AO1						Yes No
	AP1						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

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	AS	<u>1</u>	
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EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered.
Include copy of this form with next communication to Applicant.



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1875.1640000APPLICATION NO.
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Khan et al.FILING DATE
December 18, 2001GROUP
2822

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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA2	10/284,349	8/7/2003	Khan et al.			10/31/2002
	AB2	10/284,166	8/7/2003	Zhao et al.			10/31/2002
	AC2	10/284,366	8/7/2003	Zhao et al.			10/31/2002
	AD2	4,611,238	9/9/1986	Lewis et al.			7/15/1985
	AE2	5,173,766	12/22/1992	Long et al.			0625/1990
	AF2	5,216,278	6/1/1993	Lin et al.			03/02/1992
	AG2	5,285,352	2/8/1994	Pastore et al.			07/15/1992
	AH2	5,552,635	9/3/1996	Kim et al.			1/10/1995
	AI2	5,866,949	02/02/1999	Schueller			10/8/1997
	AJ2	5,949,137	09/07/1999	Domadia et al.			09/26/1997
	AK2	5,986,340	11/16/1999	Mostafazadeh et al.			5/2/1996

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL2						Yes No
	AM2						Yes No
	AN2						Yes No
	AO2						Yes No
	AP2						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

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	AA3	6,084,297	7/4/2000	Brooks et al.			9/3/1998
	AB3	6,246,111 B1	6/12/2001	Huang et al.			1/25/2000
	AC3	6,288,444 B1	9/11/2001	Abe et al.			6/4/1999
	AD3	6,369,455 B1	4/9/2002	Ho et al.			4/7/2000
	AE3	6,472,741 B1	10/29/2002	Chen et al.			7/14/2001
	AF3	6,525,942 B2	2/25/2003	Huang et al.			5/18/2001
	AG3	6,541,832 B2	4/1/2003	Coyle			1/19/2001
	AH3	6,545,351 B1	4/8/2003	Jamieson et al.			3/27/2000
	AI3	US2003/0138613 A1	7/24/2003	Thoman et al.			1/24/2002
	AJ3	5,065,281	11/12/1991	Hernandez et al.			2/12/1990
	AK3	5,717,252	2/10/1998	Nakashima et al.			12/2/1996

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL3						Yes No
	AM3						Yes No
	AN3						Yes No
	AO3						Yes No
	AP3						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

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	AA4	5,856,911	1/5/1999	Riley			11/12/1996
	AB4	6,313,521 B1	11/6/2001	Baba			11/3/1999
	AC4	6,462,274 B1	10/8/2002	Shim et al.			10/20/1999
	AD4	6,528,892 B2	3/4/2003	Caletka et al.			6/5/2001
	AE4	6,563,712 B2	5/13/2003	Akram et al.			5/16/2002
	AF4	6,011,694	1/4/2000	Hirakawa			8/1/1997
	AG4	5,541,450	7/30/1996	Jones et al.			11/2/1994
	AH4	6,583,516 B2	6/24/2003	Hashimoto			11/1/2001
	AI4	6,552,266 B2	4/22/2003	Carden et al.			1/26/2001
	AJ4	6,002,147	12/14/1999	Iovdalsky et al.			9/26/1996
	AK4	6,060,777	5/9/2000	Jamieson et al.			7/21/1998

FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION
	AL3						Yes No
	AM3						Yes No
	AN3						Yes No
	AO3						Yes No
	AP3						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

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EXAMINER

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2822**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA5	5,920,117	7/6/1999	Sono et al.			3/18/1997
	AB5	5,650,659	7/22/1997	Mostafazadeh et al.			8/4/1995
	AC5	5,977,626	11/2/1999	Wang et al.			8/12/1998
	AD5	5,294,826	3/15/1994	Marcantonio et al.			4/16/1993
	AE5	6,552,428 B1	4/22/2003	Huang et al.			10/12/1999
	AF3						
	AG3						
	AH3						
	AI3						
	AJ3						
	AK3						

FOREIGN PATENT DOCUMENTS

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